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**Limerick Institute of Technology**

**Literature review**

**Limerick Street art Map App**

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CHAPTER 1

## Introduction:

Limerick Art Maps is going to be an interactive map of Limerick City where people can click on street links and see and update new street art photos to the maps if it is not there or tag it to friends. This Street Art map is going to encourage and help people to find some Limerick street art. In this mobile App, each small section of the city and the different locations show some amazing artwork to explore.

This research was initiated by my interest in Street art maps. As I began my research into the project of Street art maps, the idea came to me to explain the street art as a form of visual art created in a public area, usually prohibited art work performed outside the background of traditional art venues. Street art gained popularity during the graffiti art booms in the early 1980s, (Sadatiseyedmahalleh, 2015). Even today it continues to be used on a large scale inside city centres and towns in various techniques and categories to convey messages. Therefore, a different culture has appeared in many cities since the late 1990s. Also, street art placement of unassigned artwork has appeared in public places. Different people can understand it differently; some people can see it as a form of activities. On the other hand, some people may see it as an illogical response to display the street art in people places, simulating formal understanding of crime, law, culture and art. In addition, street art is inspired by the ancient inscriptions. Sometimes it has become a big issue because most of the people do not agree whether it is crime or art. Street artist have been blamed for vandalism, indignity and intention to ruin property, illegal intrusion and against social rules. In modern times the use and application of street art has changed. Nowadays street art is a promotional tool which is used to change the meaning of the landscape elements that dominate current cities, fostering social inclusion in the city.

Street art becomes popular in the 1970s and 1980s but it has more of a following in the 21st century. Also lots of people believe the explosion of technology such as mobile devices and Internet lead this form of art into success. Artist can use street art to speak to other kinds of people. They can give a useful message to the people through their arts in the street walls. Street art can completely vary in style and meaning. Just like other art forms it is used to express feelings, emotions or send an important message. Street artists use the inspiration from many sources such as web sites, digital media, famous classic art pieces and world problems. Street art is a form of art that has many other terms or variations in itself. The term urban art, guerrilla art and post-graffiti are common and represent a more inspired form of street art rather than vandalism.

## 

## Reason to choose this topic

For my research I got the inspiration from the cork street art in the Facebook page. Also my main motive to develop this kind of mobile app to promote the Limerick street art to the people and get more attention to it. Also I saw some street arts in the Limerick city centre, which give me the aspiration to pick up this kind of subject where I can gain more knowledge and understand it from insider's perspective. The project which I choose will help me to get deeper understanding of the relationships between individuals’ art and a public space.

As walking in the Limerick city I saw one art that, I can't decide if the eyeball ice cream cone or the hello kitty tattoo is favourite thing about this piece, but I would say it is definitely eye catching. The work of artists Smug it was commissioned for the Make a move Festival and has been captured by many people in the city. This is located on Castle Street Limerick. In this app I will give functionality to capture the picture and share it to the social network where GPS coordinator will give the exact location and the time when this picture clicked and shared include the location of the picture or the arts which created in the street wall. Also as the authorisation point of view some people may have objection to create the art in the local property where they can send the authentication to the local city council to approve the art which have been created in the local property. Many of the interesting and exciting features of street art follow from this consensual method of production these works are subject to alteration and destruction and hence street artists accept the resulting ephemerality of their work, these works are often illegal. Street artists have a strong incentive to remain anonymous to the public at large and to the relevant authorities in order to avoid getting caught. They neither have an implicit interest in being known within the street art community, recognized by the public at large and neither known nor recognized by police and other authorities who might legally take action against them. In this respect being a street artist involves a delicate balancing act between remaining anonymous and unknown to authorities, but established oneself within the street art community and public at large by having one's work recognized and associated with one's.

As Street art and graffiti stands today for highly productive branding tool that used by ad agencies and marketing executives in a bid to target the youthful ( (Maric, 2014). Such as huge branded companies like Coca –cola Sprite, Reebok all those industries are being asked to integrate street art into their packaging designs (Butss, 2014). Even though companies using the medium of walls for their marketing campaigns.

* 1. Purpose

The purpose of this research is that public art can contribute positive impacts on the quality of city environment, because such contribution can be useful in developing a better governance of city environment in which public art take a most important part to promote it.

* 1. Research Objective

The objective of the research is to explore the impact the public art on urban environment within the circumstances of Limerick city.

* 1. Target

The target auditions for this mobile app is the people who really interested about Street art and graffiti and who want to promote it to the other people.

In the last few years ago there have been several studies that have explored the problematic of connecting stories and maps in web or mobile applications. In (Nicola Maiellaro, 2014) Maiellaro and Nicola look at four case studies of geographical information systems (GIS) for cultural Art available on the web. They argue that in all the cases it was not easy to distinguish the categories and types (subcategories) of the Points of Interest (PoIs) because they have the same shape and confusing icons and colours. They maintain that there should be a unique shape and colour for each category and a unique icon for each type; icons should be intuitive so that their meaning is easily understood. They also say that there should be other ways to access the PoIs and not only by navigation and search. They propose a solution where the map has several interface elements: a menu on the left with several function icons; a sidebar on the right with a search box and a list of the categories and types that can be enabled/disabled; a pop up box that is displayed by clicking on a PoI and shows the multimedia content associated to it; a slide that filters the PoIs relative to the time they were built. Maiellaro preferred a solution implemented as a web application (Montenegro, 2016) instead that as a native app because it was cheaper, platform independent and not dependant on proprietary stores for distribution.

Propose an implementation of an “Augmented Cultural Heritage” where mobile devices are used to enrich the experience of places with audio testimonies. Their solution is applied to the area of the Montenegro, in Tuscany, in Italy and uses as audio from the “Anna Buonomini” archive; therefore the audio is not made on purpose for the app, but is what they call an “Intangible Cultural Heritage” so making it available to a wider audience. The implementation is a mobile app that uses GPS to retrieve the position of the users and notifies the users when they are approaching a place that has an audio associated to it. To give an impression of reality the volume of the audio increases when the users go nearer to the places; this behaviour is realised by putting a Bluetooth beacon in the places of interest; the Bluetooth of the mobile device detects the distance from the beacon based on the intensity of the signal. A solution that uses “inconsistent maps”, i.e. maps that are not in scale and emphasise some areas or buildings, is presented by Lu in ( (Lu, 2013). They claim that inconsistent maps are easier to understand because they highlight the element of interest to the users; however on these kinds of maps it is difficult to locate the user position because they are not in scale. Lu implementation utilises inconsistent maps on which are featured “event points” and “line events”, that connect the points, and together they are used to tell a story. The user’s current position is displayed on the map by an algorithm that takes into account the coordinated given by the GPS on the device and the coordinates of the two nearest event points.

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## CHAPTER 2

What technologies are using: In the technical research I came a across many technologies, where my main research was to find an open source map API and the appropriate tech language for my mobile app. In my research where I found the different map API as example OpenStreetMap, Google map api under this api there are sub type of the API.

**Open Street Map:** This is a free wiki world map, and open volunteer driven initiative to collaboratively a map of the world and release the map data under a free and open license. There is actually many different API around the OpenStreetMap in the ecosystem, but my main concern is to download the data in API or create the raw data on it. In the OpenSteetMap is provides read and write operations on the raw map data of the openstreetMap database. It is actually primarily for openStreetMap editing software and although any developers can create a new editor tool this is not a small undertaking and should be carried out with careful consultation with the OpenStreetMap community. Based on free OpenStreetMap data, it is possible to create beautiful accurate and fast maps with native vector rendering and live customizable styling directly on a mobile device. One advantage of using the Open street map API is the map tiles can be easily displayed in custom native mobile applications on Android or an ios or any other platforms. To work on it, developers can load the map tiles online from a tile server of a choice or implement offline maps in the app displaying the maps from download or bundled tile extracts ( (GmbH).

One most important reason to use the Map API is that I have to decide which map is suitable for the integrating on the react native app on android and ios

I did my research on Integrating Google maps into React Native App on Android. In this post they clearly show the step by step integration of the Google Maps into React Native App. (mehdiyev).

# Leaflet VS Open Layers maps API

Leaflet is same as an open source JavaScript library for mobile interactive maps. It is developed by Vladimir Agafonkin of Map Box with a team of dedicated contribution. In this library has a 30 KB of gzipped JS code also it has all the features which all the developers need for the online maps. On the other hand there is an open Layers map API which has high performance feature packed library with all mapping. Leaflet and open Layers can be define as mapping API’s tools with some of the features offered by Leaflet are following. (community, 2019)

Tile layers, Drag panning with inertia, Scroll wheel zooms

Also Open Layers provides some features which are the following.

Tiles layers- It pull tiles from OSM, Bing Map Box other many source.

It is a very light weight than leaflet.

## React Native:

The Technology I'm using in my project is React Native which can be work on the both mobile application android and the ios. React Native is a JavaScript framework for writing real natively. It’s based on Reactive Facebook java Script library for building user interfaces, but instead for targeting the browser its targets the mobile platforms. As we can said that now we can write the mobile application that looks and feel truly native. This all happened because of the java Script library, React Native is known for its speed and efficiency. It is best suited for app and web development. That’s help a lot in reducing the cost and time of application building. (Mehul, 2018)

However, it provides an easy and convenient environment for mobile while using the debugging tools. As we know there are different type of React Native tools which play a most important role in accelerating the speed of the app development. As Pete Hunt states that React is designed to encourage the reusability of components that developer can creates. React use the JavaScript, as we that it is a flexible and powerful programming language to develop the large scale of applications.

In the React each component works separately from one another, which allowing for minimal and efficient changes to the DOM. As Facebook developed one another feature for React is the use of JSX, an alternative to standard JavaScript syntax when creating components. JSX similar like HTML and HTML5, which making it's readable to software developers who are familiar with those coding languages.

As we know that React has been gaining the more popularity in software development because of its flexibility and reusability that makes it for the ideal to creating a newer software project.

Since 2015 React Native become more beneficial for developers or a team who are on a budget as the application can support both major platforms with the same code base. Kociecki writes that in his latest React Native project, the development time took 33% less than if they had been developing iOS and Android separately. Also development of a React Native application does not require the native developers who have a higher salary on average.

Why Native React:

The fact of choosing react native to develop mobile application is that it allows perform complex tasks in a simple code. This framework uses the UI library created by Facebook to make more straightforward code for implementing and executing React JS. Also in the react native mobile app had reload feature. It allows us to operate on real time code changes and make corrections while the app is loading. The foundation level programming uses the same code for both OS. It's like deploying the same app to all types of the mobile operating system. Also it make easy to recompiling the app. (Ratnottar, 2019).

1.1 React js:

## React JS is a JavaScript library for building a fast and interactive user interface. Typically it is used for web development, as we could say that it has changed the way that we think about the front-end development. React.js has grasped the interest of the open source community and it is here to stay. However, at its core React is actually a library framework for the programming language JavaScript, which is used in web development.

## Android studio:

Android studio is an intuitive feature rich and official integrated development environment ( IDE) for the application development. This is a based on the Intellij IDEA, java integrated development environment for the software code editing and development tools. It is more easy and productive to use for any Android App creation than Eclipse (Clifton Craig, 205).

The main advantage of using the Android studio is that it has a technology platform with its own ecosystem of tools to support it. After the Android studio next most important tool would be in the Android ecosystem. The most important features of the Android studio is the following:

Navigation Editor

Android Cradle plugin updates

IntelliJ IDEA 2018.2.2 changes

# GPS Coordinators:

#### 1.1 GPS

## GPS is Global positioning system which is based on satellite navigation system made up of approximately 24 satellites. GPS works in any weather conditions, in anywhere of the world. The Department of Defence in US originally put the satellites into orbit for military use, but they were made available for all civilian use in the 1980s.

## 1.2 Global Navigation Satellite System

## Global Navigation Satellite system involve the signals from the US governmental GPS, the European Galileo, also Russian Glonass and the Chinese Compass, Indian IRNSS (Choudhary, 2019). At the present only GPS and Glonass are operating, but when using the side by side signals increased but they not yet proved their strength. The possibility gain when several satellite is that we could see more satellite at the once, and which give us better GDOP and better accuracy in turn result.

# Tools & Component:

React Native component libraries can be a huge time saver as working on the react project. React is open source JavaScript library that helps in building user interfaces for the both web app and mobile apps. it includes n number of components that will use in while developing app.

# React Native Map view:

This is a one of the React Native component libraries that offers map components for Android and IOS is React native map view. In this component have a lot to do customize the map style that can be able to change map view position and tracking the region or location and make the points of interest clickable on Google maps. Also we can enable zooming in to specified markers or coordinates. GPS system to fetch the location and give you nice street view, also it has location search functionality.

## IDE:

Visual studio code: Visual studio source code editor developed by Microsoft for window, Linux macOs its included support of debugger git hub.

Node.js: Integration of the node js cli all other component included on this tool.

Apache sever for the share photo.

CHAPTER 3

CONCLUSION

In the conclusion we can said that Street art is not just an art placed in a public space. It is art that believed to make contribution to contemporary urban issues for its participatory process and attractively engaging the public. As we can take the many forms of street art, it has two dimensional visual art such as graffiti and wall art is more popular because of the it is a not expensive and more accessible for community members to participate. On the other graffiti is still controversial especially in term of legal aspect then street art. Because street art has accepted because of the recognized benefits it may contribute to urban environment in one way or there is other benefit to contribute economic development of the city.

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